

51

Date: Thursday, 11/15/2007 7:34:01 AM
User: Kim Johnston

Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: 350/355 AS X-TUBE AFT UNDER REVIEW
Job Number	: 35734		
Estimate Number	: 12486		
P.O. Number	:	Part Number	: D350748201
This Issue	: 11/15/2007 S.O. No. :	Drawing Number	: N/A UNDER REVIEW <i>N/A</i>
Prsht Rev.	: NC	Project Number	: N/A
First Issue	: 1 / Type : LANDING GEAR	Drawing Revision	: <i>N/A REV 6 11/07/15</i>
Previous Run	: 35733	Material	:
Written By	:	Due Date	: 12/21/2007 Qty: 1 Um: Each
Checked & Approved By	:		
Comment	: Est Rev: A New Issue 06-07-05 JLM Est Rev: B Update qty of MS21042L5 06-09-12 KJ		

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	DC	DOCUMENT CONTROL
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Comment: Photocopy bluefile & type labels per PPPD350-748-201 CHG001

08/04/15

2.0	35734A	X-TUBE AS 350/355 HI AFT UNDER REVIEW
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Comment: Sub-Component X-TUBE AS 350/355 HI AFT
D350-748-241 B *35734A*

SV

3.0	PACKAGING 1	PACKAGING RESOURCE #1
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Comment: PACKAGING RESOURCE #1
Pick Packing Kit

4.0	D35001	350 SADDLE
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Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)
350 SADDLE
Batch: *35315*

CU

5.0	D35011	BUSHING
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Comment: Qty.: 16.0000 Each(s)/Unit Total : 16.0000 Each(s)
BUSHING
Batch: *B 32204*

11/24/15 (1)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Thursday, 11/15/2007 7:34:01 AM

User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 350/355 AS X-TUBE AFT UNDER REVIEW

Job Number: 35734

Part Number: D350748201

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

AN46A

Bolt



Comment: Qty.: 16.0000 Each(s)/Unit Total : 16.0000 Each(s)

Bolt

Batch: M105810

7.0

AN441A

bolt



Comment: Qty.: 8.0000 Each(s)/Unit Total : 8.0000 Each(s)

bolt

Batch: M105940

8.0

AN532A

Bolt



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Bolt

Batch: M106519

9.0

AN960JD416

Washer



Comment: Qty.: 32.0000 Each(s)/Unit Total : 32.0000 Each(s)

Washer

Batch: M106780

10.0

AN960JD516

Washer



Comment: Qty.: 8.0000 Each(s)/Unit Total : 8.0000 Each(s)

Washer

Batch: M107008

11.0

MS21042L4

Nut



Comment: Qty.: 24.0000 Each(s)/Unit Total : 24.0000 Each(s)

Nut

Batch: M106825

12.0

MS21042L5

Nut



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Nut

Batch: M106785

Per 9/4/10 (1)

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Thursday, 11/15/2007 7:34:01 AM

User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 350/355 AS X-TUBE AFT UNDER REVIEW

* Job Number: 35734

Part Number: D350748201

Job Number:



Seq. #:

Machine Or Operation:

Description :

13.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



08/04/15 (X)

Comment: INSPECT 100% KITS FOR COMPLETENESS

14.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D350-748-201

Location: PPP 35734A

PPP Rev: Rev. A

08/04/15 (X)

15.0

QC21

FINAL INSPECTION/W/O RELEASE



08/04/16 (X)

Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



mf 08-04-16

B35734

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Thursday, 11/15/2007 7:34:08 AM
User: Kim Johnston

Process Sheet

51

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: X-TUBE AS 350/355 HI AFT UNDER REVIEW
Job Number	: 35734A		
Estimate Number	: 12483		
P.O. Number	:	Part Number	: D350748241
This Issue	: 11/15/2007 S.O. No. :	Drawing Number	: D350-748-241 U/R <i>REV D</i>
Prsht Rev.	: NC	Project Number	: N/A
First Issue	: 11 Type : LANDING GEAR	Drawing Revision	: <i>CD</i> <i>07/11/15</i>
Previous Run	: 35733A	Material	:
Written By	:	Due Date	: 12/21/2007 Qty: 1 Um: Each
Checked & Approved By	:		
Comment	: Est Rev: A New Issue 06-07-05 JLM Est Rev: B Update cadplate process 06-09-12 KJ		

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	DC	DOCUMENT CONTROL
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Comment: DOCUMENT CONTROL

Photocopy bluefile and create labels as per PPP D350-748-241 CHG001

N/A

2.0	D6018125	Crosstube Material
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Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Crosstube Material

D6018-125

2.299" OD X 2.000" ID

Batch: *B27472*

J-F

07/12/01

(1)

3.0	MORI SEIKI	MORI SEIKI CNC LATHE LARGE
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Comment: MORI SEIKI CNC LATHE LARGE

1-Fill tube with sand & install plugs on both ends as per Folio FA647

2-Turn first side as per Folio FA647

3-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D350-748-241.

J-F

07/12/03

(1)

4.0	QC1	INSPECT ALL DIM TO DIM SHEET
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Comment: INSPECT ALL DIM TO DIM SHEET

J-F

07/12/03

(1)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Thursday, 11/15/2007 7:34:09 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: X-TUBE AS 350/355 HI AFT UNDER REVIEW

Job Number: 35734A

Part Number: D350748241

Job Number:



Seq. #: Machine Or Operation: Description :

5.0

MORI SEIKI

MORI SEIKI CNC LATHE LARGE



Comment: MORI SEIKI CNC LATHE LARGE

1-Turn second side as per Folio FA647

2-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D350-748-241.

3-Scribe part # as per Dwg D350-748-241

J.F. 07/12/03 (1)

6.0

QC1

INSPECT ALL DIM TO DIM SHEET



Comment: INSPECT ALL DIM TO DIM SHEET

J.F. 07/12/03 (1)

7.0

QC8

SECOND CHECK



Comment: SECOND CHECK

J.F. 07/12/03

8.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

Remove all Machining Marks

ALM

07-12-07

9.0

OUTSIDE SERV.10

OUTSIDE SERVICES -LG



Comment: Sub-Contracting OUTSIDE SERVICES

Issue P/O: 5266

Heat Treat to min 180 KSI As per Dwg D350-748-241

Sand Blast tube after Heat Treat

Possible Supplier: Vac Aero

Ensure Certificate of Conformity is attached

C207/12/12 (1)

10.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Receive & Inspect For Transit Damage

Ensure certificate of conformity is attached

Pc 5/11/10 (1)

11.0

QC6

DIMENSIONAL CHECK



Comment: DIMENSIONAL CHECK

C 086111

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Thursday, 11/15/2007 7:34:09 AM

User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: X-TUBE AS 350/355 HI AFT UNDER REVIEW

Job Number: 35734A

Part Number: D350748241

Job Number:



Seq. #:

Machine Or Operation:

Description :

12.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Oil inside of tube with LPS-3.

A/R

LPS-3

Batch:

N/A
M105005 M-A 08/03/04 (PK)

13.0

BENDING

BENDING MACHINE



Comment: BENDING MACHINE

Bend tube as per Dwg D350-748-241 using CNC bender program D350A and Folio FT N/A EL/50 8-1-18

14.0

QC15

DIMENSIONAL CHECK OF X-TUBES



Comment: DIMENSIONAL CHECK OF X-TUBES

08-01-24 (D)

15.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Remove all marks from tube within limits of D350-748-241

2-Drill Tube as per Dwg D350-748-241 Using DT8876 Drill Jigs,

Set-up drill table as per QSI 010

3-Deburr

4-Engrave Part # and Batch # as per Dwg D350-748-241

PTC
ANM 8-2-25
EL 8-2-21
ANM 8-2-25

16.0

QC6

DIMENSIONAL CHECK



Comment: DIMENSIONAL CHECK

5 08/03/04

17.0

OUTSIDE SERV.10

OUTSIDE SERVICES -LG



Comment: Sub-Contracting OUTSIDE SERVICES

Issue P/O: 5847

Stress relief at 375° for 5 hours

Magnetic Particle Inspect per ASTM E1444

Cadium Plate per AMS-QQ-P-416B, Class 1, Type 2

Embrittle relief at 375° for 8 hours, Chromate Treat

Possible Supplier: Southwest United Industries


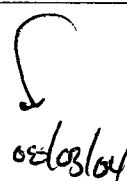
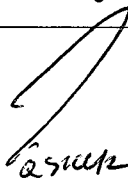
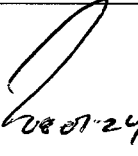
Ensure Certificate of Conformity is attached

11/20/08/03/07 (D)

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D350-748-241 PAR #: N/A Fault Category: Prod/As. X-tube NCR: Yes No DQA: D Date: 08/04/16
 QA: N/C Closed: D Date: 08/04/16

NCR: <u>35734A</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
08/04/16	150	Side 'B' is slightly higher than A.	 08/04/16	trim cut off as per dim sheet.	EL 8-2-21	 08/03/16	 08/04/16	 08/04/16

NOTE: Date & initial all entries

Date: Thursday, 11/15/2007 7:34:09 AM

User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: X-TUBE AS 350/355 HI AFT UNDER REVIEW

Job Number: 35734A

Part Number: D350748241

Job Number:



Seq. #:

Machine Or Operation:

Description :

18 0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Receive & Inspect For Transit Damage

Ensure certificate of conformity is attached

RC 8/4 ①

19 0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

S 08/04/11

20 0

SPRAY PAINTING

SPRAY PAINTING



Comment: SPRAY PAINTING

1-Prime inside crosstube as per QSI 005 4.2 *RT 08-04-08*

2-Paint Outside of Tube as per Dart QSI 005 4.2

ml 08 04 10 ①

21 0

QC14

INSPECT SPRAY PAINT



Comment: Inspect Spray Paint

Then, Wrap in plastic bag to protect from scratches

RT 08-04-11

22 0

D35021

SUPPORT



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

SUPPORT

Batch: *35783**ml 08 04 14*

23 0

D2856400

Abrasion Strip



Comment: Qty.: 1.2401 f(s)/Unit Total : 1.2401 f(s)

Abrasion Strip 7.10" long x2

Batch: *35900**ml 08 04 14*

24 0

ALS41032225

Insert



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Insert

Batch: *100621**ml 08 04 14*

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 04/04/2008 8:57:49 AM
User: Melanie Fauteux

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services	Drawing Name : X-TUBE AS 350/355 HI AFT UNDER REVIEW
Job Number : 35734A	
Estimate Number : 12483	
P.O. Number :	Part Number : D350748241
This Issue : 04/04/2008 S.O. No. :	Drawing Number : D350-748-241 U/R
Prsht Rev. : NC	Project Number : N/A
First Issue : 15/11/2007 Type : LANDING GEAR	Drawing Revision : C
Previous Run : 35733A	Material :
Written By :	Due Date : 21/12/2007 Qty: 1 Um: Each
Checked & Approved By :	
Comment : Est Rev: A New Issue 06-07-05 JLM Est Rev: B Update cadplate process 06-09-12 KJ	

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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28.0

CROSSTUBES

CROSSTUBES RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

REFERENCE ONLY

1-Install Ground wire Insert,then insert screw and washer

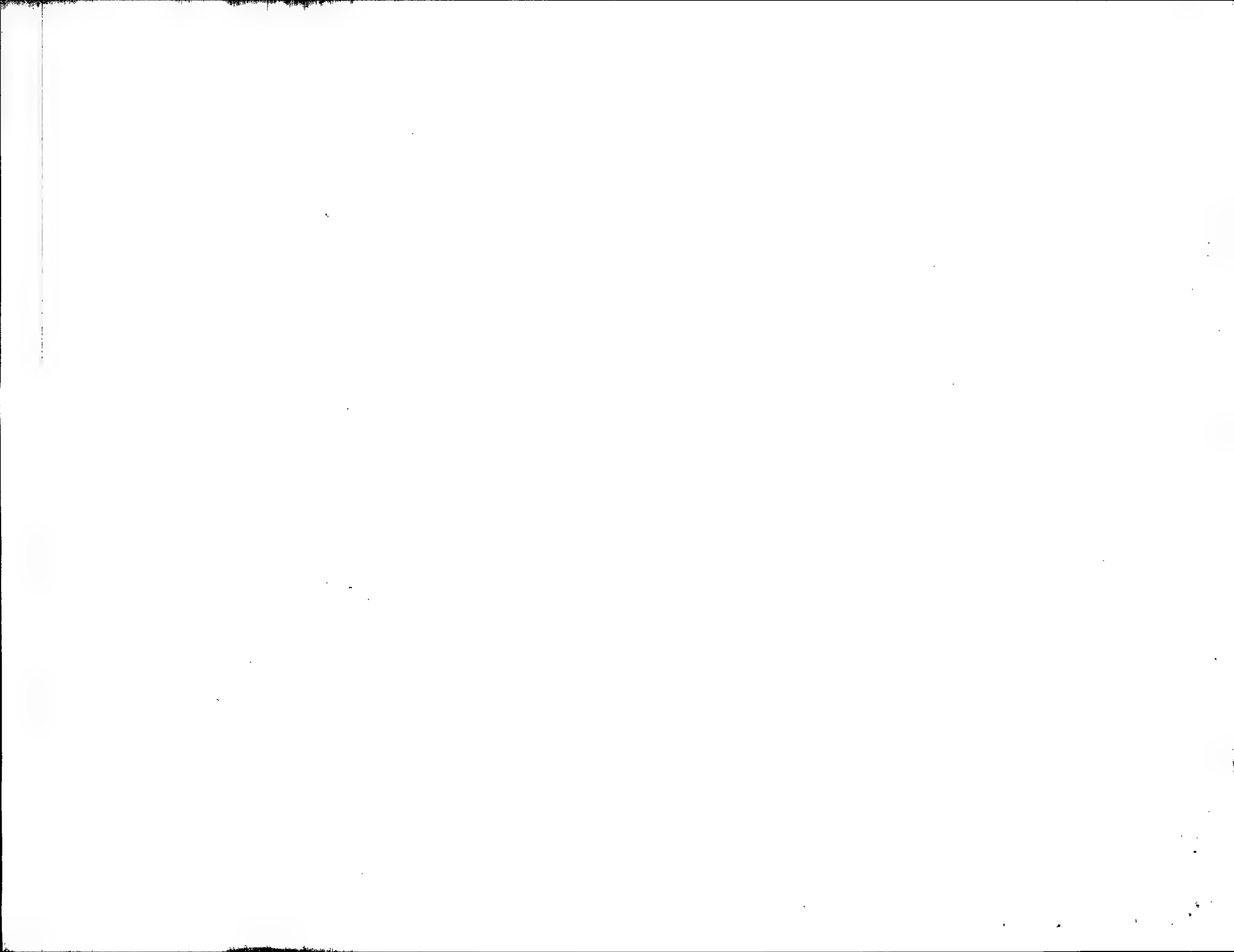
2-Install Abraison strips as per Dwg D350-748-241 & QSI 035.

3-Install supports Using Dt8876 as per Dwg D350-748-241,Torque to 60-80 IN-LBS

m/ 08 04 14(1)

Job Completion





Date: Thursday, 11/15/2007 7:34:09 AM

User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: X-TUBE AS 350/355 HI AFT UNDER REVIEW

Job Number: 35734A

Part Number: D350748241

Job Number:



Seq. #:

Machine Or Operation:

Description :

25.0

AN960JD10

Washer



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Washer

Batch: 107534

m 08 04 14

26.0

MS2192020

Clamp (per MIL-DTL-8783C)



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Clamp (per MIL-DTL-8783C)

Batch: 106484

m 08 04 14

27.0

MS27039110

Screw



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Screw

Batch: 18836

m 08 04 14

28.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Install Ground wire Insert, then insert screw and washer

2-Install Abrasion strips as per Dwg D350-748-241 & QSI 035.

3-Install supports Using Dt8876 as per Dwg D350-748-241, Torque to 60-80 IN-LBS

m 08 04 14 (1)

29.0

QC5

INSPECT WORK TO CURRENT STEP

CHECKED FOR FLATNESS
UNACCEPTABLE - 08-03-25

Comment: INSPECT WORK TO CURRENT STEP

08/04/15 (K)

30.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D350-748-241

Location: PP 35734

PPP Rev: 8/4/15

50 (K)

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Thursday, 11/15/2007 7:34:09 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: X-TUBE AS 350/355 HI AFT UNDER REVIEW

Job Number: 35734A

Part Number: D350748241

Job Number:



Seq. #:

Machine Or Operation:

Description :

31.0

QC21

FINAL INSPECTION/W/O RELEASE



08/04/15

Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



CMF 08-04-15

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order: 35734A
Description: Crosstube Assembly (AS350/355 High Aft)	Part Number: D350-748-241
Inspection Dwg: D350-748-241 Rev: D	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article
 ☐ Prototype

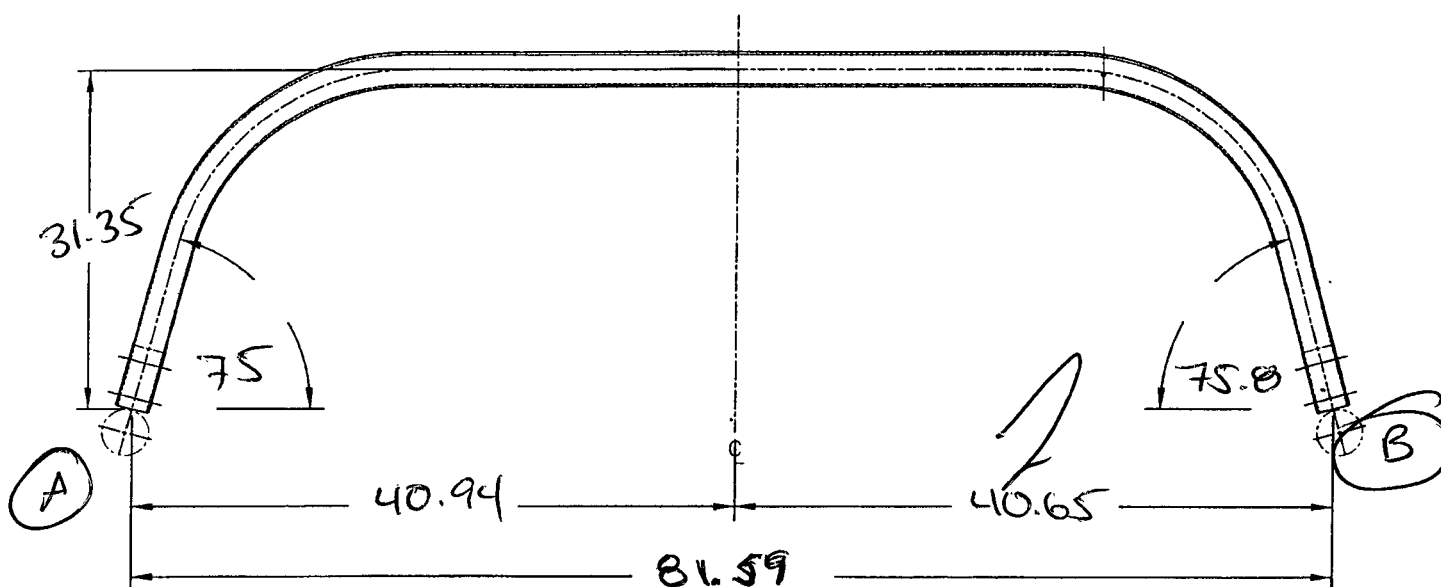
Inspection Sheet Drawing Dimension		Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	2.240	+0.005/-0.000	2.245"	✓			
	2.180	+0.005/-0.000	2.185"	✓			
	2.180	+0.005/-0.000	2.185"	✓			
	2.208	+0.005/-0.000	2.212"	✓			
	2.234	+0.005/-0.000	2.237"	✓			
	2.253	+0.005/-0.000	2.255"	✓			
	2.272	+0.005/-0.000	2.275"	✓			
	2.299	+0.005/-0.000	2.301"	✓			
	0.063	+/-0.010	.073"	✓			
	4.26	+/-0.030	4.275"	✓			
	R0.063	+/-0.010	R0.063"	✓			
	R0.50	+/-0.030	R0.500"	✓			
SIDE B	2.240	+0.005/-0.000	2.244"	✓			
	2.180	+0.005/-0.000	2.184"	✓			
	2.180	+0.005/-0.000	2.185"	✓			
	2.208	+0.005/-0.000	2.212"	✓			
	2.234	+0.005/-0.000	2.237"	✓			
	2.253	+0.005/-0.000	2.255"	✓			
	2.272	+0.005/-0.000	2.275"	✓			
	2.299	+0.005/-0.000	2.301"	✓			
	0.063	+/-0.010	.073"	✓			
	4.26	+/-0.030	4.277"	✓			
	R0.063	+/-0.010	R0.063"	✓			
	R0.50	+/-0.030	R0.500"	✓			
	122.70	+/-0.060	122.700"	✓			

Measured by: J.F.	Audited by: [Signature]	Prototype Approval:	N/A
Date: 07/12/03	Date: 07/12/03	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	07.01.17	New Issue (P/O D350-748-201)	KJ/JLM	

DART AEROSPACE LTD		Work Order:	35734A
Description: Crosstube High Aft (AS350/355)		Part Number:	D350-748-201
Inspection Dwg: D350-748-241 Rev: D		Page 1 of 1	

Required Dimension	Min	Max
Height	31.22	31.48
1/2 Span	40.77	41.03
Angle	75	77
Total Span	81.54	82.06



Comments
Trim cuff B .200"
MAX TWIST = 0.773" → UNACCEPTABLE # 09-03-25

QC15 Inspection	
Date	08-01-24

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	



DESIGN 92	DRAWN BY 92	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED H	APPROVED H	DRAWING NO. D350-748-241	REV. D SHEET 1 OF 3
DATE 06.10.31		TITLE CROSSTUBE (AS 350/355 HI AFT) SCALE NTS	
A	06.03.31	NEW ISSUE	
B	06.06.30	ADD D6018-125 & PRIME AND PAINT	
C	06.08.14	ADD CAD PLATING	
D	06.10.31	MAG. PARTICLE AND CAD PLATE AS MFD.	

RELEASED

06.10.31 H

QTY	P/N	DESCRIPTION
X	D350-748-241	CROSSTUBE ASSEMBLY (AS 350/355 HI AFT)
1	D6018-125	CROSSTUBE (OR D6015-125)
2	D3502-1	SUPPORT
2	D2856-400-710	ABRASION STRIP
1	AELS-1032-225	INSERT
1	AN960JD10	WASHER
2	MS21920-20	CLAMP (PER DART SPEC. M-MS21920-20)
1	MS27039-1-10	SCREW

D350-748-141 CROSSTUBE:

- 1) MATERIAL: MANUFACTURED FROM D6018-125 OR D6015-125
FINISHED LENGTH = 122.70 ± 0.06
- 2) MACHINE PER MACHINING DETAIL ON PAGE 3. BLEND OUT ALL EDGES FROM MACHINING LONGITUDINALLY, TRANSITIONS SHOULD BE SMOOTH. NOTE: ALL HOLES ARE DRILLED AFTER BENDING.
- 3) SCRIBE DART PART NUMBER AND BATCH NUMBER IN THIS AREA WITH VIBRATING STYLUS
- 4) BEND PROGRESSIVELY WITH A MINIMUM OF 7 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 5) HEAT TREAT TO MIN. 180 KSI PER MIL-T-6736 OR AMS 2759-1C AFTER TURNING
- 6) FINISH: MAGNETIC PARTICLE INSPECT PER DART QSI 038 4.2
CADIUM PLATE PER AMS-QQ-P-416B, CLASS 1, TYPE II
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 7) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE. WHEN DRILLING HOLES EXTREME CARE MUST BE TAKEN AND CAREFUL DEBURRING PERFORMED TO ENSURE A CLEAN HOLE WITH NO CRACKING/CHIPPING/GROOVES.
- 8) INSTALL D2856-400-710 ABRASION STRIP WITH A GAP ON BOTTOM SIDE OF CROSSTUBE, CENTERED OPPOSITE D3502-1 SUPPORT, PER QSI 035.
- 9) TORQUE MS21920-20 CLAMPS 60 TO 80 IN-LB
- 10) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 11) ALL DIMENSIONS ARE IN INCHES
- 12) PART IS SYMMETRIC ABOUT CENTERLINE EXCEPT FOR $\varnothing 0.297$ HOLE.

UNDER REVIEW

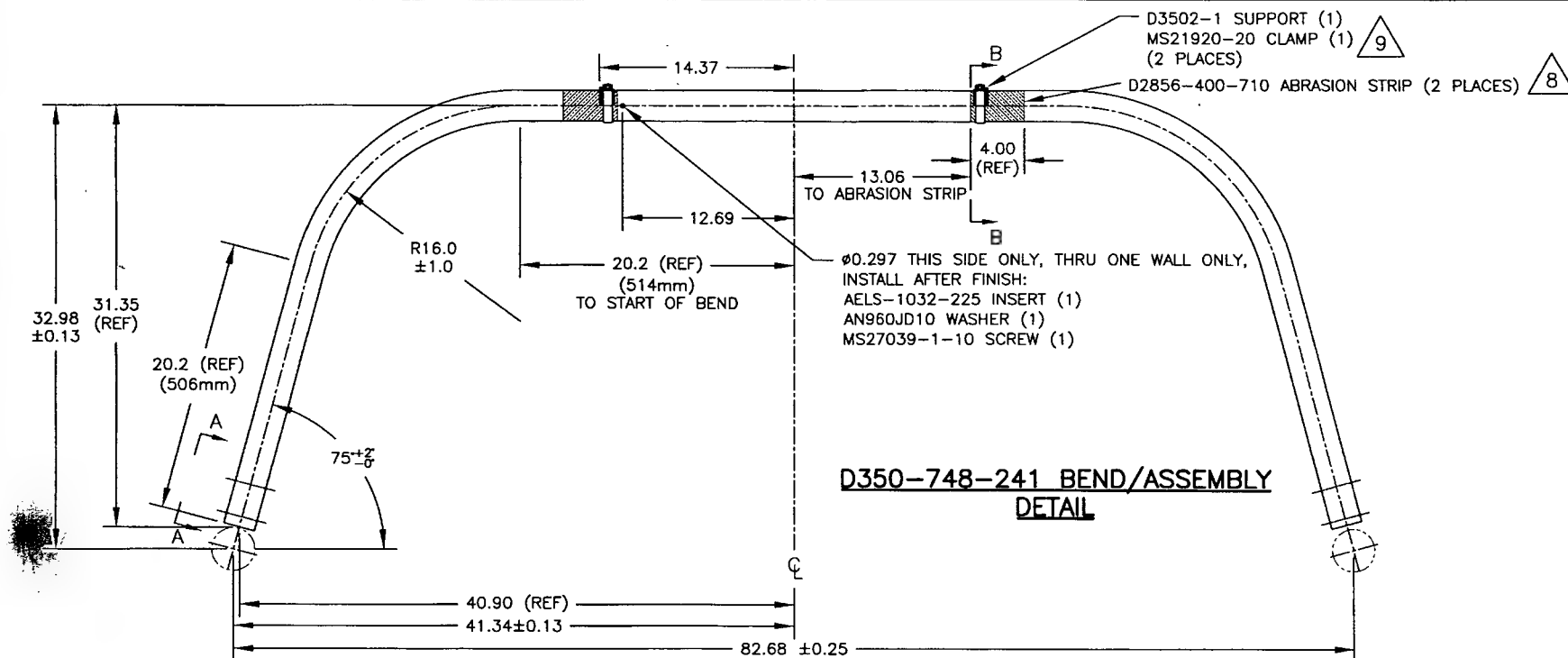
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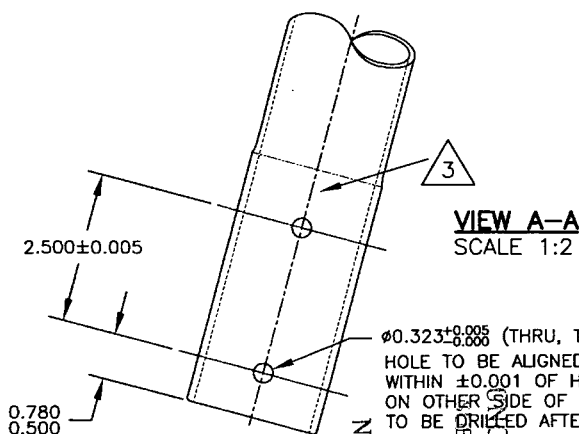
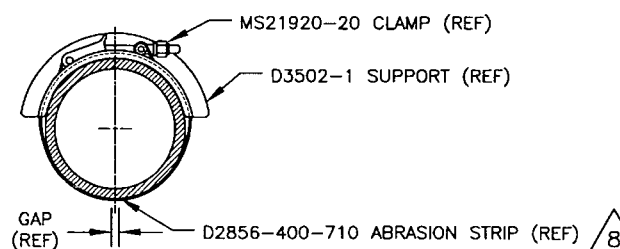
OK 07.11.22

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SECTION B-B
SCALE 1:2



UNDER REVIEW
07.02/16/17
CUFF BEING REVIEWED
OK 06.10.31

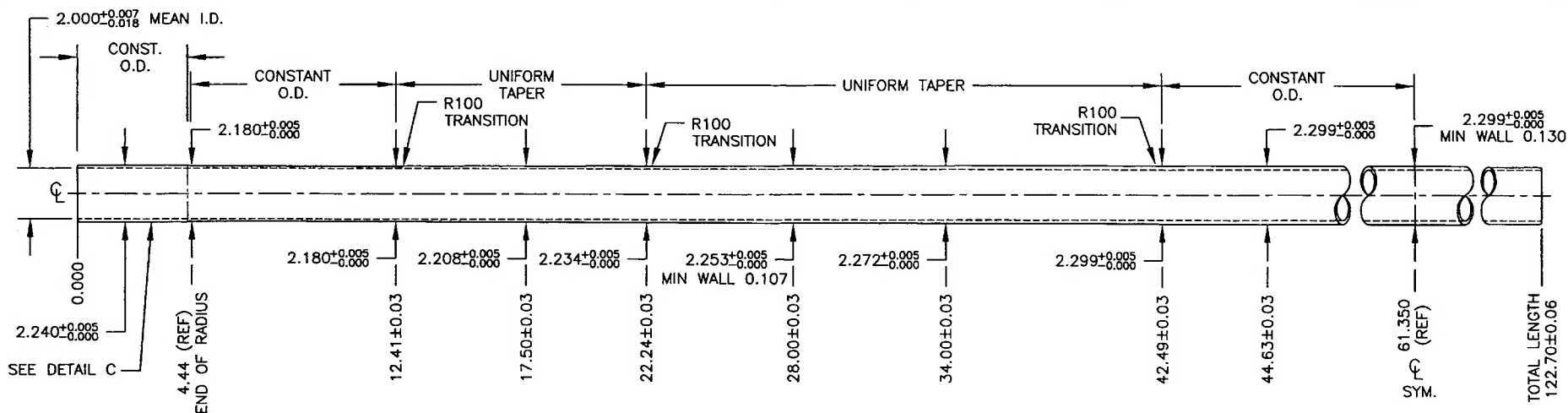
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06.10.31

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DART AEROSPACE LTD.

DESIGN qp	DRAWN BY qp	DART DART AEROSPACE LTD. HAMMERSLEY, ONTARIO, CANADA	REV. D
CHECKED H	APPROVED H	DRAWING NO. D350-748-241	SHEET 2 OF 3
DATE 06.10.31	TITLE CROSSTUBE (AS 350/355 HI AFT)	SCALE 1:8	

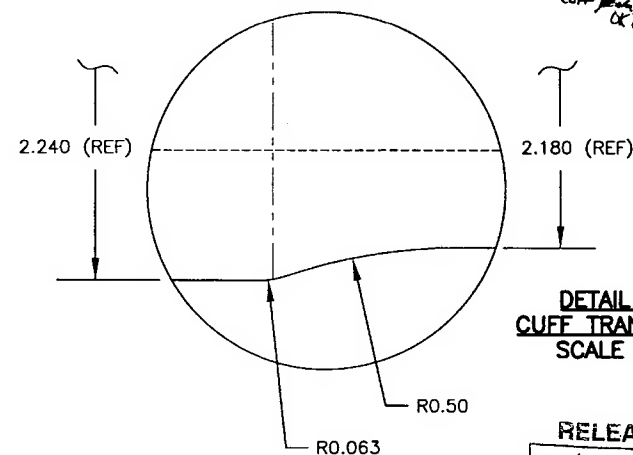
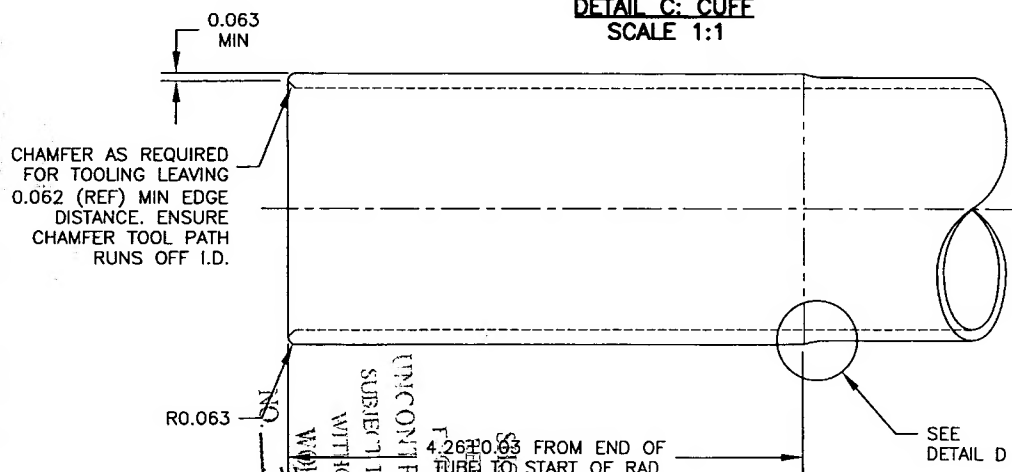
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WORK ORDER
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RETURN TO
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D350-748-241 MACHINING DETAIL

UNDER REVIEW
07.02/16/17
DART AEROSPACE LTD.
10.07.2017

DETAIL C: CUFF SCALE 1:1



DETAIL D: CUFF TRANSITION SCALE 9:1

RELEASED
10.03.17

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DESIGN qp	DRAWN BY qp	DART	DART AEROSPACE LTD. WARRIMUR, ONTARIO, CANADA
CHECKED #	APPROVED #	DRAWING NO. D350-748-241	REV. 0 SHEET 3 OF 3
DATE 06.10.31	TITLE CROSSTUBE (AS 350/355 HI AFT)	SCALE 1:4	

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35734A



VAC AERO
INTERNATIONAL INC.

RELEASE NOT

GST No. : R105468102

OAK 94195-1



HEAD OFFICE
1371 SPEERS ROAD, OAKVILLE, ONTARIO
CANADA L6L 2X5
TEL: (905) 827-4171 FAX: (905) 827-7480



2009 WYECROFT ROAD, UNIT B
OAKVILLE, ONTARIO
CANADA L6L 6J4
TEL: (905) 827-7377 FAX: (905) 827-1380



QUEBEC DIVISION
7450 RUE VÉRITÉ STREET, ST. LAURENT, QUÉBEC
CANADA H4S 1C5
TEL: (514) 334-4240 FAX: (514) 334-6269

01/07/2008

MM / DD / YYYY

PAGE : 1

BILL TO: 1DAR01
DART AEROSPACE LTD.
1270 ABERDEEN ST.
HAWKESBURY, ON

SHIP TO: DART AEROSPACE LTD.
1270 ABERDEEN ST.
HAWKESBURY, ON

K6A 1K7

K6A 1K7

DATE SHIPPED	SHIP VIA	F.O.B.
01/07/2008		ORIGIN
CUSTOMER P/O No.	JOB No.	TERMS
5266		COD

PART No.	DESCRIPTION	UOM	QTY ORD	QTY SHPD	TEST RESULTS
D350-748	-141	EA	10	10	
Process Specifications: Procedure: 4353 HEAT TREATED TO 180 KSI MIN. PER AMS 2759-1D 100% HARDNESS CHECKED AS PER ASTM E-18 HRC 40-45 MATERIAL: 4130 SAND BLASTED D350748141B357-27A, 28A, 29A, 30A, 31A D350748241B357-32A, 33A, 34A, 35A, 36A NOTE: NO SERIAL NUMBERS FOUND ON PARTS					

100% HARDNESS TESTED

Qty: 10 Pcs.

42/43 HRC 07 Jan 08



I hereby certify that the material covered by this release note has been inspected and tested and conforms to all specifications relevant thereto in accordance with the conditions of the contract / or purchase order.

ON BEHALF OF VAC AERO INTERNATIONAL INC.

Authorized Q.C. Inspector



VACUUM BRAZING · HEAT TREATING · SPECIAL PROCESSING · FURNACE EQUIPMENT
TURBINE COMPONENT OVERHAUL · PLASMA AND OTHER COATINGS



**CERTIFICATE OF
CONFORMANCE**

**CADORATH PLATING CO. LTD.
2150 LOGAN AVENUE
WINNIPEG, MANITOBA R2J-0J1**

DATE: Mar-29-2008

CONSIGNED TO: Dart Aerospace Ltd.
1270 Aberdeen St.
Hawksbury, ON K6A 1K7

W/O #: 74719

INVOICE #: 38606

**CONTRACT OR
PURCHASE ORDER # 5847**

DESCRIPTION: SKID

QTY 1

P/N # D350748241

S/N # B35734A

**CADMIUM PLATE IAW AMS-QQ-P-416 TYPE 2 CLASS 1. MPI IAW
ASTM-E-1444. HEAT CHART #8933 & #8983.**

**CERTIFICATE: I certify that the items indicated here on have
been inspected and tested and conform to all specifications
and requirements detailed on the contract or purchase order.**

Approved Inspector:

William Maruszynski

